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Abstract
Lin and Lee (2004) proposed two methods for time analysis of activity networks with fuzzy activity durations. Their methods are based on fuzzy arithmetic and parametric analysis, respectively. The method based on parametric analysis is developed for applications in large-scale networks, and was derived based on Lin and Chern's (1993) fuzzy linear programming approach. In this study, we consider the problem how to reduce the computational complexity of their parametric analysis method. In particular, we solve the parametric time analysis problem using the shortest path simplex method. Since time analysis is usually just for trying in the planning of a project, the acquirement and deployment of resources, and the execution of activities are following the project schedule, not the simple time analysis. In this study, we also propose two possibilistic chance constraint models for project scheduling, which are based on Liu and Iwamura's (1998a) minimin model and Liu's (1998) maximin model, respectively. Based on the results of time analysis, we show that these two models can be solved by using the forward pass method.
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